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RESEARCH

Incidence of complications of hypertension in patients in tertiary hospital

Incidência de complicações da hipertensão arterial em pacientes internados em hospital terciário

Incidencia de complicaciones de la hipertensión en pacientes en el hospital terciário

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ABSTRACT

Objective: To assess the incidence of complications of arterial hypertension in patients admitted to a tertiary hospital. The type of study is retrospective and quantitative. **Method :** The study was conducted in a tertiary hospital, SUS-related, reference North-Northeast in Cardiopulmonary Diseases.The sample was composed of medical records of patients with hypertension who developed complications of hypertension. **Results:** In this study, 300(94.33 %) had cardiovascular, cerebrovascular complications in 14 (4.40 %) and renal disease with 11 (3.45%), finally, peripheral vessels (0.62 %). **Conclusion:** The study allowed us to observe that despite the great efforts early detection of Hypertension as well as treatment adherence and improved quality of life, it is still necessary to assign more incentives to Primary Health Care in order to prevent even the early hypertension and the possible consequences of this complication. **Descriptores:** Hypertension, Complications, Patients.

RESUMO

Objetivo: Analisar a incidência de complicações decorrentes da Hipertensão Arterial em pacientes internados em hospital terciário. **Método:** Estudo retrospectivo e quantitativo, realizado em um hospital terciário, conveniado ao SUS, referência Norte-Nordeste em Doenças Cardiopulmonares. A amostra foi composta por 335 prontuários de pacientes portadores de hipertensão arterial que desenvolveram complicações da hipertensão arterial. **Resultado:** No presente trabalho, 300 (94,33%) apresentaram complicações cardiovasculares, as complicações cerebrovasculares com 14 (4,40%) e a doença renal com 11 (3,45%), por ultimo, vasos periféricos (0.62%). **Conclusão:** O estudo permitiu constatar que apesar dos grandes esforços destinados à detecção precoce da Hipertensão Arterial, como também adesão ao tratamento e melhoria na qualidade de vida, ainda se faz necessário destinar maiores incentivos a Atenção Primária de Saúde no sentido de prevenir precocemente a Hipertensão arterial e suas possíveis complicações. **Descritores:** Hipertensão, Complicações, Pacientes.

RESUMEN

Objetivo: Analizar la incidencia de las complicaciones de la hipertensión arterial en los pacientes ingresados en hospital terciario. **Método:** Estudio retrospectivo y cuantitativo realizado en un hospital terciario, relacionado con SUS, referencia Norte-Noreste en Enfermedades Cardiopulmonares. La muestra fue compuesta por 335 prontuarios de pacientes portadores de hipertensión arterial que desarrollaron complicaciones de la hipertensión arterial. **Resultados:** En el presente trabajo, 300 (94,33%) presentaron complicaciones cardiovasculares, las complicaciones cerebrovasculares con 14 (4,40%) y la enfermedad renal con 11 (3,45%), finalmente, los vasos periféricos (0,62%). **Conclusión:** Este estudio permitió constatar que a pesar de grandes esfuerzos en la detección precoz de la Hipertensión Arterial, como también la adherencia al tratamiento y una mejora en la calidad de vida, todavía es necesario asignar mayores incentivos a la Atención Primaria de Salud con el fin de prevenir la hipertensión precozmente la hipertensión arterial y sus posibles complicaciones. **Descriptores:** Hipertensión, Complicaciones, Pacientes.

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INTRODUCTION

Hypertension is defined as a syndrome of chronic nature, multifactorial, characterized by increased arterial blood pressure numbers. Allows cardiovascular and metabolic alterations, which can lead to structural and functional damage of various organs, especially the heart, brain, kidney, and peripheral vessels. Has a high prevalence in our country, affecting about 20% of the young adult population and 50% of the elderly population.¹

The high prevalence of hypertension in the population and its relationship with frequent causes of morbidity and mortality make it a serious public health problem, and if not treated properly, diminishes the expectation and quality of life.² Being asymptomatic, its discovery is given almost accidental way, at least in the beginning, due to act silently. Given these characteristics, 50% of people with hypertension do not know this condition and others who know of the existence of the condition, only half do the treatment.³

Hypertension is the most important factor for cerebrovascular disease risk and is responsible for 65% of deaths from stroke.³ Chronic high BP leads to vascular injury. Arteries exhibit modifications in their geometry, since the narrowing of the vessel and thickening of the walls until rupture. The lesions of the heart, kidneys and brains are resulting from vascular lesions in these organs.⁴

Often hypertension accompanies risk factors for atherosclerotic cardiopathy, such as dyslipidemia (abnormal blood lipid levels) and diabetes mellitus. As a risk factor for hypertension contributes to the speed with which atherosclerotic plaque accumulates within the arteries.⁵

Lower socioeconomic status is associated with higher prevalence of hypertension and risk for

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Incidence of complications of hypertension... elevated blood pressure factors as well as increased risk of lesion in target organ and cardiovascular events. In addition to the causal factors, we have, also, affecting the control of hypertension, contextual factors, among which we can list the education, knowledge about the disease, access to health services, family income (which sometimes is meager, not being able to purchase medication or adopting specific diet) and also the difficulty of adhering to a diet without salt, not understanding the severity of the disease, the restrictions on lifestyle as well as variables biopsychosocial.⁶

Has already been achieved a reasonable survival for patients, another goal has been desired: quality of life. That is, has not sought just a prolongation of survival, but this period is also experienced with quality.⁷

Once the pressure is maintained, the risk of these patients suffering from complications resulting from this, increases.⁸

We believe that this study will contribute positively to the improvement in the primary promotion concerning the nursing care in Basic Health Units, especially to patients assisted by the Program of Hypertension.

This research also intends to contribute to knowledge in the field of nursing care to patients with hypertension, who have developed complications, focusing on the adaptation of care according to the reality experienced by these patients.

So guiding question of this study has been: What is the incidence of complications resulting from arterial hypertension in patients admitted to a tertiary hospital? And, as objective: To analyze the incidence of complications of arterial hypertension in patients admitted to a tertiary hospital.

METHODOLOGY

This is a retrospective study with a quantitative approach because has as its instrument data from medical records of patients with hypertension who have developed complications thereof.

In retrospective studies, subjects are followed by the "end" to the "cause", or is proposing to study the incidence of hypertension-related complications.⁹ The study is of a quantitative nature, characterized by the use of quantification both in terms of collecting information about the treatment of these through statistical techniques.¹⁰

The research was conducted in a tertiary hospital, SUS-related, reference North-Northeast in Cardiopulmonary Disease, after consideration by the Research Center of the University of Fortaleza and subsequent approval by the Hospital Ethics and Research Committee concerned.

The population was composed of the records of patients with hypertension; The sample was composed of medical records of patients with hypertension and who have developed complications of hypertension such as cardiovascular, cerebrovascular and renal chronic and staying in inpatient units of that hospital.

We adopted the following inclusion criteria: Medical records of patients older than 18 years, patients with HBP and which have presented any complications resulting from arterial hypertension. The exclusion criteria, incomplete and illegible records. The data source were the patient files. For this we use the appropriate form, which contains socio-demographic and clinical epidemiological data. The data analysis is prepared according to the statistical findings, using tables and based on the literature.

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The study met the ethical aspects contained in Resolution 466/12, research involving humans, the National Council for Health, Ministry of Health.¹¹ Should add that all data concerning the identification of patients will be kept confidential, with the its use only for research purposes.

RESULTS AND DISCUSSION

In this study 1,295 records where only 318 fitted in the inclusion profile were analyzed. The great difficulty with the medical records were incomplete data, which are of great relevance to the study.

Results are shown in tables showing the relation between hypertension and the risk factors and its major complications. The risks propitiated by HBP are potentiated by other cardiovascular risk factors. The intensity of repercussion of arterial hypertension, evaluated for damage to target organs, also influences the prognosis of hypertensive patients.

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TABLE 1: Distribution of participants regarding socio-demographic characteristics (gender, age, marital status, education, household income, occupation and religion). hospital X. Fortaleza-CE.

VARIABLE	N	%
GENDER		
Female	113	35,53
Male	205	64,47
AGE		
18 - 39	15	4,72
40 - 55	64	20,12
56 - 65	98	30,81
66 and up	141	44,34
CIVIL STATUS		
Single	33	10,38
Married	223	70,12
Separate	11	3,46
Widower	48	15,09
No Information	03	0,94
SCHOOLING		
Illiterate	14	4,40
Primary education	80	25,16
Secondary education	30	9,43
No Information	194	61,01
RACE		
White	07	2,20
Black	00	0,0
Brown	01	0,32
No Information	310	97,48
FAMILY INCOME		
Up to 1 minimum wage	158	49,69
More than 1 minimum wage	48	15,09
No Information	112	35,22
OCCUPATION		
Salaried worker	113	35,53
Unemployed	8	2,52
Other	185	58,18
No Information	12	3,77
RELIGION		
Catholic	76	23,90
not Catholic	21	6,60
No Information	221	69,50
Origin		
Inner of Ceará	204	64,15
Fortaleza - Capital	103	32,39
other state	11	3,46

Fonte: Pesquisa direta

Regarding gender, the study found the prevalence of complications in males, this group most exposed to risk factors such as smoking and alcohol consumption. Is expressed in the literature that there is no relevance as to the difference found as regards sex. However, differences in the characteristics of the populations of each country determine the male or female sex is associated with higher prevalence of hypertension.⁵

According to age, is increasing the incidence of complications of arterial hypertension. The highest rates are concentrated in the age group that encompasses 66 years and

Incidence of complications of hypertension... more. Because it is an occurrence in the long term, this age becomes more likely, because throughout their lives the population feeds the risk factors combined with genetic predisposition. About 65% of the elderly are hypertensive, and among women over 75 years, the prevalence of the disease reaches 80%.¹

According to the official, the population presented 223 (70.12%) were married, a fact that may be relevant, since the family support network is a contributing factor to improved adherence to treatment of arterial hypertension, 48 (15.09%) widow (er), 33 (10.37%) were single, 11 (3.46%) separated and only 03 (0.94%) of the medical records did not contain this information.

Regarding the level of education, predominated those who had elementary school 80 (25.16%), high school 30 (9.43%), following the illiterate with 14 (4.40%). A fact consistent with the Brazilian reality in which most living elderly have not had the opportunity to be literate or had fewer years of education.¹² The low level of education may contribute to the appearance of the disease, because this fact associated with socioeconomic and cultural factors may hamper understanding for the needs of health care throughout life, treatment adherence and maintenance of healthy lifestyle that limit the action of risk factors.¹³

Recent studies show that the black race are more likely to incidence of HBP, as well as more vulnerable to its complications. It is known that the definition of race go beyond the purely racial criteria and encompasses lifestyles, behaviors, beyond the origin of the ancestors.¹⁴ The most studied medical records (97.49%) did not contain this information, with only 2.51% with information, where 2.22% belonged to the white race and 0.31% belonged to the mulatto, not presenting any information to the black race.

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According to family income, one hundred fifty-eight medical records (49.69%) indicated low family income, up to a minimum wage, something common in developing countries such as Brazil, and considered a complicating factor in treatment adherence, as the meager income is insufficient to meet dietary and pharmacological requirements of patients with arterial hypertension.

As for profession / occupation, most were represented by a group that fit in another occupation 185 (58.18%) listing, in the coming wage 113 (25.53%), the unemployed 08 (2.52%) and 12 (3.77%) of the studied medical records did not contain this information.

The Brazilian population is mostly belonging to the Catholic religion, a fact that is present in this study 78.35% of records containing this information when only 21.65% belong to non-Catholic groups. For the total of 318 medical records searched most did not contain this information 221 (69.51%), Catholic 76 (23.89%) and 21 non-Catholic (6.60%).

As to the origin, the vast majority is in the state of Ceará 204 (64.15%) followed by the resident population in Fortaleza 103 (32.38%) and 11 (3.45%) coming from another state. Because it is a state where the vast majority of the population resides within and this does not have enough coverage for this population tertiary care support, this is attributed to the demand for a reference hospital in the capital, hence the higher concentration cases arising out of the interior.

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TABLE 2: Distribution of participants in clinical characteristics presented for the time of diagnosis, type of complications, the complication specification and related risk factors. hospital X. Fortaleza-CE.

VARIABLE	N	%
TIME OF DIAGNOSIS OF HPB		
Up to 1 year	30	9,43
Over 1 year	113	35,53
Do not know information	175	55,04
Type of complications		
Cerebrovascular	14	4,40
Cardiovascular	300	94,34
Renal	11	3,46
Peripheral vessels	02	0,63
SPECIFICATION OF COMPLICATION		
AMI	168	52,83
Angina	44	13,84
Aneurism	07	2,20
Heart Failure	49	15,41
CKD	10	3,14
Cardiopathy	06	1,89
CAD	15	4,72
Left ventricular failure	02	0,63
Stroke	15	4,72
Stenosis	04	1,26
Atrial fibrillation	02	0,63
Atrial flutter	03	0,94
RISK FACTORS RELATED		
Smoking	175	55,03
Diabetes	76	23,90
Obesity	03	0,94
Kidney disease	07	2,20
Hypertension	318	100
Dyslipidemia	75	23,58
Sedentary	50	15,72
Family history	201	63,21
Alcoholism	84	26,42

Fonte: Pesquisa direta

Usually we have observed in practice that follows a long period of time until the carrier of hypertension may present signs, symptoms and complications associated with it. Hence the stigma of silent killer as it has insidious evolution and progresses asymptotically in most patients. We observed that 113 (35.53%) people have time to diagnosis of more than one year proven hypertension.

Increased blood pressure is an independent, linear and continuous risk factor for cardiovascular disease. Hypertension has high medical and socioeconomic costs, mainly due to its complications, such as cerebrovascular disease,

Chaves AM, Coêlho LS, Carvalho LRB, *et al.* coronary artery disease, heart failure, chronic renal failure and vascular disease of the extremities.¹ Such severity is commonly found in individuals who do not adequately control their blood pressure, which in our context is a large contingent.¹⁵ Culturally, we were not accustomed to adopt behaviors aimed at disease prevention, but its healing, implying in seeking health care only when installed signs and symptoms of disease.¹⁶

In the present study, most participants had cardiovascular complications, and 300 (94.33%), these patients have a high risk of cardiovascular morbidity and mortality. Therefore it is very important to control for other risk factors, as well as the use of acetylsalicylic acid.¹⁷

In second place are cerebrovascular complications at 14 (4.40%). Brain (stroke) stroke is a complex neurological syndrome involving usually sudden abnormality of brain function due to an interruption of cerebral circulation or hemorrhage.¹⁸

Kidney disease ranks third in our study with 11 (3.45%), it consists of lesion progressive and irreversible loss of kidney function. The main groups at risk for developing this disease are diabetes mellitus, hypertension and family history. All patients belonging to the group called risk, even if asymptomatic should be reviewed annually with urine examination.¹⁹ Finally, peripheral vessels (0.62%).

Patients developed complications, some with more than one. Acute Myocardial Infarction 168 (52.83%), angina 44 (13.84%), aneurysm 07 (2.20%), Congestive Heart Failure 49 (15.41%), Chronic Renal Failure 10 (3.14%), Cardiopathy 06 (1.89%), Coronary Artery Disease 15 (4.72%), Left Ventricular failure 02 (0.63%), stroke 15 (4.72%), 04 Mitral Stenosis (1, 26%), Atrial Fibrillation 2 (0.63%), Atrial Flutter 03 (0.94%)

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The pathophysiological basis of cardiac ischemia hypertension is triggered by the imbalance between supply and demand of oxygen to the heart muscle. Due to structural and functional changes caused by hypertension, occurs reduction in the lumen the coronary vessels, reducing the blood supply to the myocardium. In the development of hypertensive vascular lesion, installs the process of atherosclerosis throughout the coronary vascular bed, thus further reducing the vascular caliber. Thus, the person with hypertension and uncontrolled blood pressure combination of microvascular angina (imbalance between myocardial fiber and coronary vascular bed) and macrovascular (atherosclerotic) occurs, increasing the chances of myocardial ischemia, which may culminate in acute myocardial infarction.²⁰

Hypertension is the main factor for the progression of the disease and renal failure, the most important measure to slow the progress of this process is the strict control of blood pressure.¹⁷

Heart failure is a progressive disease triggered from an initial injury that affects the myocardium, with resultant loss of muscle mass or, alternatively, that impairs the ability of the myocardium to generate force and maintain its proper contractile function.²¹

Atrial fibrillation and atrial flutter are types of arrhythmias that can be caused by disorders of generation or conduction of the electrical impulse, or even the combination of both, so hypertensive patients, which usually evolve with left ventricular dysfunction, are possible candidates to develop arrhythmia at some period of life.²²

The risk factors of the disease are presented in the graph, where the prevalence of hypertension has reached 100% of affected, and family history of 63.21%, with 55.03% smokers,

Chaves AM, Coêlho LS, Carvalho LRB, *et al.* alcoholics 26.42%, 23.90% diabetics , 23.58% dyslipidemia, sedentary 15.72%, 2.20% kidney disease, obesity 0.94.

To maximize benefits and minimize risks and costs, it is necessary to organize specific strategies for different risk profiles, taking into account the complexity and availability of interventions. Fortunately, there is much that can be done in the prevention of lower cost and higher efficiency. The diversity of preventive options reiterates the need for a rational choice, taking into account the overall absolute risk, preferences and resources of the patient. The speed of change in this area requires continued attention to the news, both in risk classification schemes and in interventions.¹⁹

CONCLUSION

The study included 318 patients with hypertension admitted in a tertiary hospital, from complications of Hypertension in the second quarter of 2007.

The extent and complexity of the problems inherent the complications of hypertension should encourage the analysis of the quality of life of patients. Evaluate indicators of quality of life is essential not only because it is a basic aspect of health as recommended by the World Health Organization (WHO), but also because it allows to show the relationship between quality of life, morbidity and mortality rates and treatment adherence.

This study allowed us to observe that despite the great efforts early detection of Arterial Hypertension as well as treatment adherence and improved quality of life, it is still necessary to assign more incentives to Primary Health Care in order to prevent still early hypertension and possible complications arising from this.
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Thus, health professionals should be prepared for a new challenge: to be full of care and interdisciplinary manner, enabling scientific breakthroughs that have occurred in order to reduce these complications, may also portray the concern with the dignity human.

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